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10/668,152	09/24/2003	Seiji Horie	019519-406	2760

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EXAMINER

SHOSHO, CALLIE E

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 01/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/668,152

Applicant(s)

HORIE ET AL.

Examiner

Callie E. Shosho

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. All outstanding rejections are overcome by applicants' amendment filed 11/4/05. It is noted that applicants' filing of certified priority document and its English translation on 11/4/05 perfects the foreign priority filing date.

In light of the new grounds of rejection set forth below with respect to Kato et al. (U.S. 6,143,806) and Qian et al. (U.S. 2002/0128349), the following action is non-final. The new grounds of rejection are based upon reconsideration of each of the references wherein it was determined that Kato et al. and Qian et al. do disclose the average particle diameter of the coloring agent coated with the binder as required in present claim 4.

### **Double Patenting**

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 1 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2 of copending Application No. 10/668,158. Although the conflicting claims are not identical, they are not patentably distinct from each other because of explanation given in paragraph 2 of the office action mailed 8/4/05.

**Claim Rejections - 35 USC § 112**

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 1-4 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 has been amended to recite “fine particles being obtained by melting and kneading a coloring agent and a binder resin and dispersing the fine particles comprising coloring agent and binder resin in the non-aqueous medium”. It is the examiner’s position that this phrase fails to satisfy the written description requirement under the cited statute since there

does not appear to be a written description requirement of the cited in the application as originally filed, *In re Wright*, 866 F.2d 422, 9 USPQ2d 1649 (Fed. Cir. 1989) and MPEP 2163. As support for the above amendment, applicants point to pages 27-28 of the present specification and the examples.

However, while these portions of the specification as originally filed provide support to recite melting and kneading the coloring agent and the binder resin, there is no support to recite “fine particles being obtained by melting and kneading a coloring agent and a binder resin and dispersing the fine particles comprising coloring agent and binder resin in the non-aqueous medium”. While pages 27-28 and the examples provide support for melting and kneading the coloring agent and the binder resin, followed by cooling, and then pulverizing to form colored admixture, there is no disclosure that “fine particles” are obtained by melting and kneading the coloring agent and the binder resin. That is, while melting and kneading of the coloring agent and the binder resin does occur, this must be followed by cooling and pulverizing. Further, it appears that such process does not form “fine particles” but rather forms “colored admixture”. As set forth on page 28, lines 3-5 of the present specification, it appears that “fine particles” are not produced until the colored admixture is dispersed in the non-aqueous dispersion medium.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

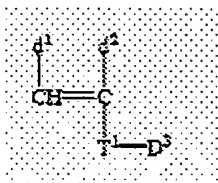
Claim 4, which depends on claim 1, recites “coloring agent is coated with binder resin to form colored admixture” while claim 1 has been amended to recite that the ink comprises “fine particles” obtained by melting and kneading coloring agent and binder resin and dispersing the fine particles into non-aqueous medium. Thus, the scope of claim 4 is confusing because it is not clear what the difference is between the “fine particles” of claim 1 and the “colored admixture” of claim 4 or how they are related. Is the coloring agent coated with the binder resin the same as the fine particles? Clarification is requested.

**Claim Rejections - 35 USC § 102**

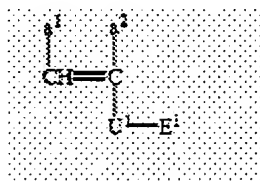
7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Kato et al. (U.S. 6,143,806).

Kato et al. disclose oil-based ink comprising non-aqueous dispersion medium, dispersant, and fine particles comprising coloring agent and resin comprising monomer of the formula:



which is identical to presently claimed monomer (A) when  $T^1$  is  $-COO-$ ,  $-OCO-$ ,  $-CH_2COO-$ , etc.,  $d^1$  and  $d^2$  are each hydrogen, halogen, cyano, etc., and  $D^3$  is cyclopentyl group and monomer of the formula:



which is identical to presently claimed monomer (B) when  $a^1$  is hydrogen,  $a^2$  is hydrogen or methyl group,  $U^1$  is  $-COO-$ , and  $E^1$  is alkyl group having 10 more carbon atoms. It is disclosed that the resin is insoluble in the non-aqueous dispersion medium. It is also disclosed that the coloring agent is contained within the resin. There is also disclosed method of making the ink which includes step of coating the coloring agent with resin (col.1, lines 7-13, col.2, line 54-col.3, line 5, col.3, lines 16-23, col.6, lines 8-23, col.7, lines 6-23, 47, and 49-56, col.8, lines 27-46 and 52-55, col.12, lines 39-44, col.21, lines 11-23, col.22, lines 7-10 and 38-46, col.32, lines 52-64, and col.37, lines 56-63). Although there is no disclosure that a homopolymer of the monomer corresponding to presently claimed monomer (B) would be soluble in the non-aqueous dispersion medium, given that Kato et al. disclose monomer identical to those utilized in the present invention, i.e. wherein the alkyl group comprises 10 or more carbon atoms, it is clear that the monomer would inherently form homopolymer that would be soluble in the non-aqueous

dispersion medium as presently claimed. Similarly, although there is no disclosure that the copolymer is a binder, given that Kato et al. disclose copolymer identical to that presently claimed, it is clear that the copolymer would inherently function as a binder.

It is noted that Kato et al. disclose that the resin is in the form of fine particles having mean particle size of 0.08-0.8  $\mu\text{m}$  or preferably, 0.1-0.4  $\mu\text{m}$ . Further from the examples (col.37, lines 24-30 and col.38, lines 24-30), it is clear that even upon forming the fine particles containing the resin and the coloring agent, the average particle size remains within the same range as that disclosed for the resin alone.

It is noted that Kato et al. disclose mixing the resin in the form of a dispersion with coloring agent by heating and then stirring for 6 hours under heat. There is no disclosure of melting and kneading the coloring agent and the resin as presently claimed. However, it is noted that “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process”, *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Further, “although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product”, *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983).

Therefore, absent evidence of criticality regarding the presently claimed process and given that Kato et al. meet the requirements of the claimed product, i.e. fine particle comprising



coloring agent and binder resin, it is clear that Kato et al. meet the requirements of the present claims.

In light of the above, it is clear that Kato et al. anticipate the present claims.

9. Claims 1-2 are rejected under 35 U.S.C. 102(e) as being anticipated by Qian et al. (U.S. 2002/0128349).

Qian et al. disclose oil-based ink comprising non-aqueous dispersion medium and fine particles comprising coloring agent and graft copolymer binder obtained from monomer including trimethylcyclohexyl methacrylate and alkyl (meth)acrylate such as lauryl (meth)acrylate or octadecyl (meth)acrylate. It is further disclosed that the segment of the graft copolymer obtained from the above monomers is insoluble in the non-aqueous dispersion medium. There is also disclosed method of making the ink which comprises step of making the colored particles. Further, it is noted that paragraph 150, for example of Qian et al. disclose that the fine particles possess average particle size of, for instance, 0.456  $\mu\text{m}$  (paragraphs 3, 8, 37-46, 48, 50-51, 63, and 150). Although there is no disclosure that a homopolymer of the alkyl (meth)acrylate would be soluble in the non-aqueous dispersion medium, given that Qian et al. disclose monomer identical to those utilized in the present invention, i.e. wherein the alkyl group comprises 8 or more carbon atoms such as lauryl or octadecyl, it is clear that the monomer would inherently form homopolymer that would be soluble in the non-aqueous dispersion medium as presently claimed.

There is no disclosure in Qian et al. that the fine particles are produced by melting and kneading the coloring agent and the binder resin. However, it is noted that “[E]ven though

product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process”, *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) . Further, “although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product”, *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir.1983).

Therefore, absent evidence of criticality regarding the presently claimed process and given that Qian et al. meet the requirements of the claimed product, i.e. fine particle comprising coloring agent and binder resin, it is clear that Qian et al. meet the requirements of the present claims.

In light of the above, it is clear that Qian et al. anticipate the present claims.

**Claim Rejections - 35 USC § 103**

10. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

11. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. (U.S. 6,143,806) or Qian et al. (U.S. 2002/0128349) either of which in view of Satake et al. (U.S. 5,814,685).

The disclosures with respect to Kato et al. and Qian et al. in paragraphs 8 and 9 are incorporated here by reference.

The difference between Kato et al. or Qian et al. and the present claimed invention is the requirement in the claims of the maximum particle size of the coloring agent coated with resin.

There is no disclosure of the maximum particle size of the fine particles in either Kato et al. or Qian et al.

Satake et al., which is drawn to ink jet inks, disclose the use of polymers having average particle size of 20-200 nm and maximum particle size less than 1000 nm in order to prevent clogging of the printer nozzles (col.3, lines 45-51).

In light of the motivation for using polymer with specific particle size disclosed by Satake et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to control the particle size of the fine particles disclosed by Kato et al. or Qian et al. to such maximum particle size in order to produce ink that will not clog the printer nozzles, and thereby arrive at the claimed invention.

#### **Response to Arguments regarding double patenting rejection**

12. Applicants argue that the double patenting rejection of record should be withdrawn in light of the amendment to the present claims that recites that the fine particles are obtained by melting and kneading a coloring agent and a binder resin. Applicants argue that such feature is not present in the copending claims.

However, it is noted that the copending claims in 10/668,158 have also been amended to recite that fine particles are obtained using melting and kneading. Thus, it is the examiner's position that the double patenting rejection of record remains relevant against the present claims.

**Response to Arguments regarding 35 USC 102&103 rejections of record**

13. Applicants arguments regarding Takahashi et al. (U.S. 2003/0232902) and Horie et al. (U.S. 2003/0202080) have been fully considered but they are moot in view of the discontinuation of the use of these references against the present claims.

14. Applicants' arguments filed 11/4/05 have been fully considered but, with the exception of arguments relating to Takahashi et al. and Horie et al., they are not persuasive.

Specifically, applicants argue that there is no disclosure in either Kato et al. or Qian et al. of fine particles dispersed in non-aqueous medium wherein the fine particles are prepared by melting and kneading a coloring agent and binder resin.

It is agreed that neither Kato et al. or Qian et al. disclose producing fine particles by melting and kneading as presently claimed. However, it is noted that "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process", *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) .

Further, “although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product”, *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir.1983).

Therefore, absent evidence of criticality regarding the presently claimed process and given that Kato et al. and Qian et al. each meet the requirements of the claimed product, i.e. fine particle comprising coloring agent and binder resin, it is clear that Kato et al. and Qian et al. meet the requirements of the present claims.

Applicants also argue that Satake et al. is not a relevant reference against the present claims given that there is no disclosure in Satake et al. of fine particles dispersed in non-aqueous medium. Applicants argue that there is no motivation to combine Kato et al. or Qian et al. with Satake et al. given that Satake et al. is drawn to aqueous dispersion not non-aqueous dispersion as presently claimed.

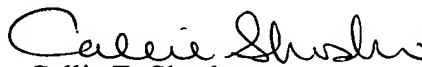
However, attention is drawn to MPEP 2141.01 (a) which discloses that a reference may be relied on as a basis for rejection of an applicants’ invention if it is “reasonably pertinent to the particular problem with which the inventor is concerned.” A reasonably pertinent reference is further described as one which “even though it maybe in a different field of endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor’s attention in considering his problem.” Satake et al. is, therefore, a reasonably pertinent reference, because it teaches the maximum particle size of particles utilized in ink jet inks such that the ink does not clog the printer nozzles which is a function especially pertinent to the

invention at hand and would be pertinent and applicable to both aqueous and non-aqueous ink jet inks.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Callie E. Shosho  
Primary Examiner  
Art Unit 1714